DOCUMENT RESUME

ED 319 194 EC 230 883

AUTHOR	Bolton, Brian; Roessler, Richard
TITLE	Manual for the Work Personality Profile.
INSTITUTION	Arkansas Univ., Fayetteville. Research and Training Center in Vocational Rehabilitation.
SPONS AGENCY	National Inst. of Handicapped Research (ED), Washington, DC.
PUB DATE	Dec 86
GRANT	G0083C0010/04
NOTE	43p.; For related documents, see EC 230 884-887.
AVAILABLE FROM	Arkansas Research and Training Center in Vocational Rehabilitation, Publications Dept., P.O. Box 1358, Hot Springs, AR 71902 ($5.00).
PUB TYPE	Tests/Evaluation Instruments (160) -- Reports - Research/Technical (143)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Adults; *Behavior Rating Scales; Diagnostic Tests; *Disabilities; *Occupational Tests; Test Reliability; Test Validity; *Vocational Evaluation

ABSTRACT

The manual introduces the Work Personality Profile (WPP), an observational work behavior rating instrument for use in situational assessment in work centers, comprehensive facilities, and employment settings. The WPP assesses such abilities as work attitudes, values, habits, and behaviors that are essential to achievement and maintenance of employment. It consists of 58 items that are completed by vocational evaluators using a standard 4-point scale. The WPP can serve as a basis for the assignment of clients to remedial programming and the measurement of improvement in targeted behaviors at regular intervals. The manual describes development of the WPP, its reliability and validity, and its applications. The manual includes the instrument, scoring key, profile report form, normative table, directions for administration and scoring, and 16 references. It also includes instructions for using the IBM-compatible floppy disk format of the WPP, which generates the score profile directly from ratings on the 58 items. Contains 16 references. (JDD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED319194

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Manual for the

Work Personality PROFILE

Brian Bolton

Richard Roessler

Arkansas Research & Training Center in Vocational Rehabilitation

University of Arkansas, Fayetteville

Arkansas Rehabilitation Services

Published By

**Arkansas Research & Training Center
in Vocational Rehabilitation**

Design & Production

Media Materials Development & Dissemination Unit

The contents of this publication were developed under a research and training center grant (G0083C0010/04) from the National Institute of Handicapped Research, Office of Special Education and Rehabilitative Services; Department of Education, Washington, D.C. 20202. However, these contents do not necessarily represent the policy of that agency, and you should not assume endorsement by the Federal Government.

All programs administered by and services provided by the Arkansas Research and Training Center in Vocational Rehabilitation are rendered on a nondiscriminatory basis without regard to handicap, race, creed, color, sex, or national origin in compliance with the Rehabilitation Act of 1964. All applicants for program participation and/or services have a right to file complaints and to appeal according to regulations governing this principle.

Manual for the
Work Personality Profile

Brian Bolton
Richard Roessler

December, 1986

Arkansas Research and Training Center in Vocational Rehabilitation
University of Arkansas, Fayetteville
Arkansas Rehabilitation Services

Overview

***The Work Personality Profile (WPP) is a work behavior rating instrument for use in situational assessment in work centers, comprehensive facilities, and employment settings.

***The WPP assesses those capabilities that satisfy fundamental work role requirements, i.e., work attitudes, values, habits, and behaviors that are essential to achievement and maintenance of suitable employment.

***The WPP possesses the advantages of comprehensive coverage, behavioral orientation, diagnostic function, and direct rating format.

***The WPP consists of 58 items that are completed by vocational evaluators using a standard 4-point scale. It requires 5-10 minutes to complete following an observation period of one week.

***The WPP can serve as a basis for (a) the assignment of clients to remedial programming and (b) the measurement of improvement in targeted behaviors at regular intervals.

***WPP results are reported on a profile form that includes 11 primary work behavior categories and 5 second-order factor scales. Both raw scores and normative percentile scores are reported.

***The WPP instrument, scoring key, profile report form, normative table, and directions for administration and scoring, as well as reliability and validity evidence, are contained in the WPP Manual.

***The WPP is also available on a floppy disk that generates the score profile directly from ratings on the 58 items. Written in BASIC for MS DOS machines, the WPP will run on most IBM compatible machines.

Acknowledgements

We would like to dedicate the WPP to the many rehabilitation professionals who expressed an interest in participating in the measure's development. In particular, we single out for special mention Alf Wiebe, Michael Lemieux, Kristine Swanson, and Neal Little.

Alf Wiebe (Assessment Supervisor, Rehabilitation Society of Calgary, Calgary, Canada) provided WPP ratings for the normative sample and for the inter-rater and intra-rater reliability analyses. Michael Lemieux (Rehabilitation Counselor, Fairfax Opportunities Unlimited, Springfield, Virginia) and Kristine Swanson (Vocational Evaluator, Illinois Growth Enterprises, Rockford, Illinois) also provided data for the normative sample.

Participants in the validity sample were clients at the Hot Springs Rehabilitation Center, Hot Springs, Arkansas. We appreciate the assistance of Neal Little and the HSRC evaluation staff in providing these WPP data.

In addition to these four individuals, the authors acknowledge their colleagues, clients, and facilities for their cooperation as well. We also thank the staff of the Arkansas Research and Training Center for their assistance in the preparation of the WPP.

The contents of this monograph were developed under a research and training center grant (G0083C0010/04 from the National Institute of Handicapped Research, Office of Special Education and Rehabilitation Services, Department of Education, Washington, D.C. 20202. However, those contents do not necessarily represent the policy of that agency, and you should not assume endorsement by the Federal Government.

All programs administered by and services provided by the Arkansas Research and Training Center in Vocational Rehabilitation are rendered on a nondiscriminatory basis without regard to handicap, race, creed, color, sex, or national origin in compliance with the Rehabilitation Act of 1973 and Title VI of the Civil Rights Act of 1964. All applicants for program participation and/or services have a right to file complaints and to appeal according to regulations governing this principle.

Material in this publication is in the public domain and may, with appropriate credit, be reproduced without permission.

Table of Contents

Section	Page
Introduction	1
The WPP	2
WPP Applications	5
Development of the WPP	7
Reliability and Validity	11
Reliability	11
Validity	16
Summary	21
References	23
Appendix 1: Instructions for the WPP Floppy Disk	25
Appendix 2: Scoring Key for WPP Scales	26
Appendix 3: Percentile Conversions for WPP Scales	27
Appendix 4: WPP Scoring Instructions	28

Manual for the Work Personality Profile

Introduction

Particularly appropriate for evaluating general employability, situational assessment is widely used in workshop and facility settings (Dunn, 1973). Specifically, situational assessments yield a realistic sample of the individual's responses to a wide variety of stimuli relevant to task performance and interpersonal relationship demands on the job (Hoffman, 1972). A recent survey of employers underscored the importance of interpersonal task performance and teamwork skills for an employee's tenure on the job (Selz, Jones, & Ashley, 1980). Support for the validity of this employer opinion can also be found in numerous studies of the success of rehabilitation clients in maintaining work (Greenspan & Shoultz, 1981; Kolstoe, 1961; Lewinsohn & Graf, 1973).

Rehabilitation clients must, therefore, either possess job maintenance skills upon entering services or develop them as a result of work adjustment interventions. As Oetting and Miller (1977) noted, absence of on-the-job adjustment skills "leads to being fired or to the kind of criticism that makes a person quit" (p. 34). To determine whether a person possesses job maintenance skills, an assessment instrument is needed. Therefore, the authors conducted an extensive study of instrumentation designed to measure vocational functioning to isolate those skills central to meeting the demands of the work role or maintaining one's job (Roessler & Bolton, 1983). The instrument that resulted is the Work Personality Profile (WPP).

The major reason for developing the Work Personality Profile (WPP) was to make available for research and service applications a comprehensive observational instrument for assessing critical work role requirements. Previously discussed in detail (Roessler & Bolton, 1983), these work role requirements represent specific job maintenance tasks. As a result of sorting the items and scales of 10 relevant vocational functioning measures, a composite measure emerged, the WPP, representing a comprehensive sample of job maintenance behaviors. Use of the WPP, therefore, identifies deficiencies, that if not remediated, may prevent a disabled client from achieving or maintaining employment.

It was also felt that an efficient approach to job maintenance assessment was needed. The 58 behavioral items on the WPP can be rated in approximately 5 to 10 minutes. The scaling enables the evaluator to specify whether the particular target behavior represents an employability

strength or weakness. Hence, in only a few minutes time, the evaluator can produce a profile of the client's job maintenance liabilities and assets.

Finally, the WPP is intended to represent meaningful employability constructs, i.e., those behaviors directly relevant to employment success and, therefore, to work adjustment planning. Employability strengths as identified by the WPP suggest possible areas to consider in terms of job/person match. In other words, individuals with certain types of strengths would do particularly well on jobs requiring those capabilities. On the other hand, employability deficits suggest areas for skill development to improve the person's chances to retain a job and, possibly, to advance on the job. Therefore, the counselor should utilize information on employability strengths as well as deficits in work adjustment counseling with clients.

The WPP

The Work Personality Profile (WPP) is an observational rating instrument designed for use in situational assessment in work centers and comprehensive facility settings (see enclosed WPP). The WPP consists of 58 behaviorally-oriented items that are rated by vocational evaluators using a standard 4-point scale. WPP ratings represent judgments of employability strengths and deficits that reflect an individual's functioning level on 11 rationally derived categories of work performance and five factor analytically developed scales.

Resulting from an item-by-item analysis of 10 well known work assessment instruments, the 58 WPP items encompass the domain of vocational functioning known as the work personality (Roessler & Bolton, 1983). The work personality consists of those capabilities that satisfy fundamental work role requirements, i.e., work attitudes, values, habits, and behaviors that are essential to achievement and maintenance of suitable employment. An aspect of the work personality critical to development and application of the WPP is the recognition that work personality elements are modifiable, i.e., appropriate work attitudes, values, and behaviors can be acquired. Hence, vocational diagnosis with the WPP establishes a quantitative basis for implementation of interventions designed to enhance employability of handicapped clients (see Marr & Roessler, 1986).

The WPP possesses the advantages of comprehensive coverage, behavioral orientation, diagnostic function, and direct rating format. Factors such as test anxiety, social desirability, and/or frustration with the measurement task

have little or no effect on WPP ratings. The ratings represent judgments regarding employability strengths and deficits on 16 dimensions of work performance (see Table 1). The results of the evaluator's ratings are summarized on a profile form (see page 6) that graphically portrays the client's work personality strengths and deficits. These data can serve as a basis for (a) the development and assignment of clients to remedial programming and (b) the measurement of improvement in targeted work behaviors by completing the WPP at regular intervals.

The profile report form is used to summarize WPP results on the 16 work performance scales. The profile sheet also provides space for the evaluator to enumerate critical skill deficiencies. The WPP should be administered after the client has completed one week (between 20 and 30 hours) in the vocational evaluation setting. This amount of time will usually ensure adequate opportunities for careful observation and planned interaction with the client. Ratings on the 58 behavioral items are scored on the 16 scales by summing the keyed items and dividing by the number of items completed (i.e., disregard items that are rated "X"). The key for scoring the WPP items on the 16 scales is given in Appendix 2.

WPP scale scores can also be evaluated in relation to norms on a large group of disabled persons in rehabilitation facilities. Representative of handicapped persons who receive work evaluation services in rehabilitation work centers and comprehensive facilities, the normative sample (N=243) provides an excellent basis for calculation of standard scores. For certain diagnostic applications, average raw scale scores are most useful because they locate clients on the 4-point anchored format, i.e., they have direct criterion-referenced meaning. But, a score profile that indicates a client's work status relative to a representative population of clients is often useful, too. Therefore, score distributions for the 11 rational and five factor scales for the normative sample are given in Appendix 3. The tabled distributions enable evaluators to translate raw (average) scores into decile or percentile equivalents. Scale scoring equations and normative translations have been programmed for microcomputer, greatly facilitating the scoring and reporting of WPP profiles (see Appendix 4 for an example of a scored WPP with accompanying Profile Report). The computer diskette (IBM-PC compatible) is available from the RT Center. Facilities that do not have desk computers are encouraged to photocopy the WPP as needed. Preprinted WPPs are also available from the RT Center.

Table 1

WPP Scoring Scales

Rationally Derived Scales

S1. Acceptance of the work role - ability to conform to basic expectations in work, e.g., arrives appropriately dressed and accepts work assignments.

S2. Ability to profit from instruction or correction - capability to make recommended changes in work behaviors, e.g., listens to instructions or corrections attentively and maintains improved work procedures after correction.

S3. Work persistence - ability to stay on task without prompting, e.g, works steadily during entire work period and works at routine jobs without resistance.

S4. Work tolerance - willingness to accept change without decreasing effort, e.g., accepts change in work assignments and maintains productivity despite change in routine.

S5. Amount of supervision required - ability to work with minimal supervision and direction, e.g., needs virtually no direct supervision and recognizes own mistakes.

S6. Extent trainee seeks assistance from supervisor - ability to ask for supervisory help appropriately, e.g., asks for further instructions if task is not clear and requests help in an appropriate fashion.

S7. Degree of comfort or anxiety with supervisor - ability to interact with supervisor without anxiety, e.g., approaches supervisory personnel with confidence and performance remains stable in supervisor's presence.

S8. Appropriateness of personal relations with supervisor - ability to interact pleasantly and appropriately on the job, e.g., discusses personal problems with supervisor only if work-related and gets along with staff.

S9. Teamwork - ability to work cooperatively, e.g., accepts assignment to teamwork tasks and works comfortably in group tasks.

S10. Ability to socialize with co-workers - capability to establish friendships with co-workers, e.g., shows interest in what others are doing and appears comfortable in social interactions.

S11. Social communication skills - ability to express oneself in social interactions, e.g., expresses likes and dislikes appropriately and initiates conversations with others.

Factor Analytic Scales

F1. Task orientation - ability to demonstrate sound cognitive skills and work habits on the job, e.g., learns quickly, initiates activity, and performs independently.

F2. Social skills - ability to relate to co-workers, e.g., friendly, sociable, works well with others.

F3. Work motivation - ability to accept routine assignments and respond to change, e.g., willingly accepts work assignments and moves readily to new tasks.

F4. Work conformance - ability to adapt to work role requirements and to control self-expression, e.g., conforms to rules and regulations and displays good judgment in use of obscenities and vulgarities.

F5. Personal presentation - ability to respond appropriately to authority figures, e.g., sufficiently alert and aware and requests help in an appropriate fashion.

WPP Applications

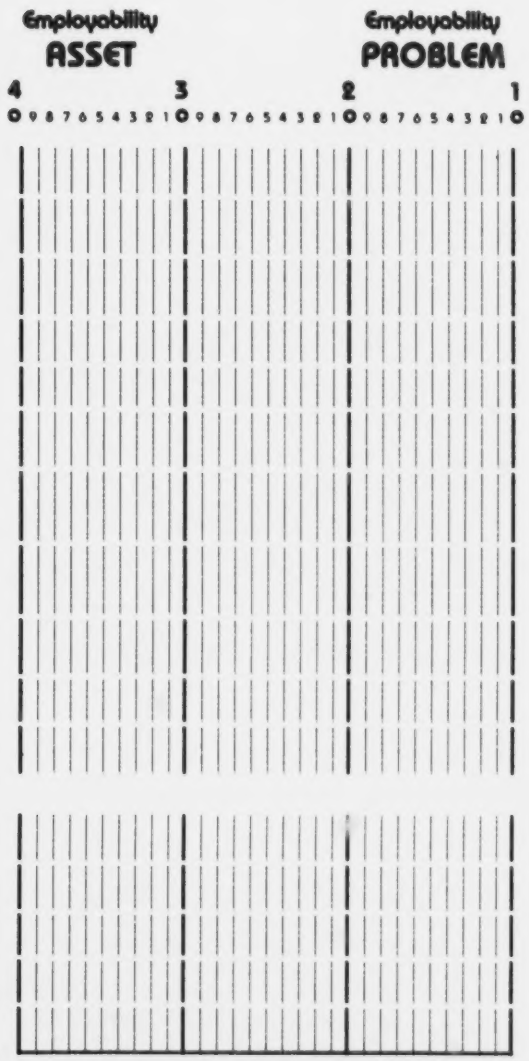
There are a number of uses for the WPP. First, it provides the data necessary to develop an individual's profile on 16 essential dimensions of work performance. Results at this profile level are useful in the early stages of work adjustment planning, in Social Security evaluations, and in short-term work evaluations done for VR counselors.

The WPP profile sheet also lists those behaviors for which the trainee received a rating of either 1 (a problem area, will definitely limit the person's chances for employment) or 2 (performance inconsistent, potential employability problem). These deficits in fundamental work

Work Personality Profile
REPORT[1]

Name	Sex	Age	Race

Education	Disability



Percentile Equivalent %

_____	S1	Acceptance of work role
_____	S2	Ability to profit from instruction or correction
_____	S3	Work persistence
_____	S4	Work tolerance
_____	S5	Amount of supervision required
_____	S6	Extent trainee seeks assistance from supervisor
_____	S7	Degree of comfort or anxiety with supervisor
_____	S8	Appropriateness of personal relations with supervisor
_____	S9	Teamwork
_____	S10	Ability to socialize with co-workers
_____	S11	Social communication skills
_____	F1	Task orientation
_____	F2	Social skills
_____	F3	Work motivation
_____	F4	Work conformance
_____	F5	Personal presentation

Critical employability deficits, i.e., behaviors rated "1" or "2"

"1" Problem areas	"2" Problem areas
_____	_____
_____	_____
_____	_____
_____	_____

[1] Arkansas Research and Training Center in Vocational Rehabilitation, University of Arkansas, Fayetteville

capabilities must be addressed in the person's work adjustment plan. Hence, they represent adjustment, rehabilitation, or habilitation objectives for the individualized service program. These program objectives dictate the type of employability interventions to select.

Evaluators and counselors can also scan the actual rating form to identify particular employability strengths (a rating of 4) or areas of adequate performance (a rating of 3). Employability strengths or adequacies should be considered when estimating job/person match in particular jobs in specific companies.

Development of the WPP

The WPP was constructed to operationalize the concept of the functional vocational capabilities (FVC's) required by the work role, a concept derived from the early writings of Gellman (1953) and referred to hereafter as the work personality (see Figure 2 in Roessler & Bolton, 1983). Functional Vocational Capabilities (FVC's) include those behaviors, skills, or attitudes needed for success in work. To sample these constructs and to insure comprehensive coverage of the work personality, the authors defined the domain of FVC's as the behaviors included in 10 well-known work assessment instruments (see Figure 3 in Roessler & Bolton, 1983, numbers 1, 2, 3, 7, 9, 10, 11, 12, 13, & 15).

After all items relating to work establishment (Crites, 1976) in the 10 instruments were typed on individual cards, a sorting procedure began that extended over several days; the objective was to put similar items together and thereby identify clusters or subscales of FVC's. The initial sorting procedure generated a tentative set of 16 rationally derived clusters, which was progressively refined by deleting redundant items and merging similar clusters; the process could be described as an iterative clustering algorithm based on the authors' expert judgments of the nature of the behavior, skill, or attitude assessed by the original items.

The first WPP version to result from this progressive refining and merging process was a set of 64 behaviorally-oriented items written in standard format and organized into 11 homogeneous clusters of work personality attributes. This first edition of the WPP required two types of judgments by the evaluator: (a) binary (yes/no) ratings on each item and (b) global 3-point judgments on each of the 11 dimensions. Based on the results of a pilot administration including feedback from four vocational evaluators and the results of preliminary statistical analyses, the following

modifications were made:

1. The item response format was changed from Y/N to a 4-point scale ranging from employability deficit (1) to employability strength (4) to provide more precision in the diagnosis of work personality attributes.

2. Several items that referred to behaviors or attitudes that evaluators had little opportunity to observe were deleted.

3. A few items that referred to multiple target behaviors were rewritten or divided into two items.

4. All negatively stated items were changed to positive phrasing.

The second edition of the WPP, which consisted of 58 items that were scored on the same 11 dimensions of FVC's, was administered to 97 clients in a comprehensive rehabilitation center; results of the statistical analyses indicated that the revised items and the expanded rating format were fine, but that the global ratings were not serving a significant purpose. Hence, the third (current) edition of the WPP consists of 58 behavioral items arranged in random order, each requiring a 4-point judgment from employability strength to deficit, that are scored and profiled on 16 dimensions of the work personality.

Using the current edition of the WPP, data on two primary research samples were collected to analyze reliability and validity properties of the instrument (discussed in the section to follow). The first sample consists of 243 clients of three rehabilitation centers offering work evaluation, work adjustment, vocational training, and long-term assignments on contract work tasks. The second sample is composed of 181 clients of a comprehensive residential rehabilitation center. The first sample is referred to as the normative sample and the second as the validity sample. A subsample of 79 clients from the normative sample was used for the reliability analyses.

Brief demographic descriptions of the primary samples are (with statistics given first for the normative sample): proportion male (65%/65%); median age (25 years/23 years), age 35 or less (77%/86%); highest grade completed: seventh grade (10%/8%), 12 or more grades completed (47%/53%); major disabling condition: physical (26%/45%), intellectual (31%/24%), emotional (43%/31%). The major research samples are heterogeneous with respect to demographic composition

and roughly comparable, as are the reliability and validity subsamples used in later analyses.

For the purpose of identifying the psychometric dimensions of work behavior encompassed by the WPP, a factor analysis of the 58 items was conducted for the normative sample of 243 clients. A principal components condensation followed by Varimax rotation isolated five factors that explain the majority of item covariation on the WPP. Items were assigned to the factors on which they had their highest loadings; these five subsets of items constitute scoreable subscales. Factor scale scores were subsequently calculated by summing (unit-weighting) the items composing each scale.

The first factor scale consists of 21 items representing six of the 11 rationally derived WPP scales. Appendix 2 lists the items composing the factor scales. Examination of the 21 items reveals that this is a dimension of work performance that encompasses both cognitive skills and good work habits. A highly rated client learns quickly, initiates activity, performs independently, and asks questions only when necessary. Adaptable and responsible, this client also possesses good learning ability on the job, with capacity for selfdirection. In summary, the first factor scale enumerates attributes of a mature worker and can be reasonably labeled Task Orientation.

The second factor scale contains 12 items from four WPP rational scales. The content of the items suggests a dimension of work behavior reflective of a sociable, outgoing, friendly, emotionally expressive temperamental inclination. The client who scores higher on this scale interacts well with others, enjoys working with others, and is helpful, supportive, and socially responsive in the work setting. In summary, the second factor scale identifies individuals who interact appropriately with co-workers and may be called Social Skills.

The third factor scale consists of eight items from four WPP rational scales. This dimension describes an individual who willingly accepts work assignments, moves readily to new tasks, and works at routine jobs without complaining. This client also works well in group situations. The work attitude displayed is one of flexibility, acceptance, compliance, and responsivity to authority. Because these characteristics describe a properly motivated employee, this factor is named Work Motivation.

The fourth factor scale is scored on nine items, seven of which represent just two of the rational scales of the WPP. This dimension is concerned generally with appropriate

behavior in the work setting. Specifically, five items refer to exercise of good judgment in the expression of negative behaviors. These items may very well indicate that the client simply refrains from expressions of negative behavior. The other dominant theme in this dimension is that of an even-tempered, controlled self-presentation. In summary, the client who scores higher on this dimension conforms to what may be called the understood rules of work etiquette, justifying the name Work Conformance.

The fifth factor scale consists of eight items that represent four WPP rational scales. The underlying dimension that is evident in the item content is focused on the client's skill in interacting with supervisory personnel in the work setting, including attention to personal hygiene and appearance. Recognizing that the dominant theme involves the ability to respond appropriately to authority figures, this scale may be labelled Personal Presentation.

Two other factor analytic studies of handicapped persons' rated work behavior have been reported in the literature. Gellman, Stern, and Soloff (1963) identified five factors in the Workshop Scale of Employability (WSE): Attitudinal Conformity to Work Role, Maintenance of Quality, Acceptance of Work Demands, Interpersonal Security, and Productivity. Factor analysis of the Minnesota Satisfactoriness Scales (MSS) resulted in four factors (Bolton, 1985b): Performance, Conformance, Personal Adjustment, and Dependability.

Many of the 52 items composing the WSE reflect a psychodynamic orientation, in contrast to the WPP, which is much more behaviorally-oriented. The 28 MSS items emphasize performance characteristics associated with successful employment. The MSS is typically completed by supervisors of employed former VR clients, while the WSE and WPP were both designed to enhance the diagnostic function in simulated, therapeutic work settings. Furthermore, the MSS uses a comparative rating format, in contrast to the WSE and WPP which require judgments on anchored scales.

Consequently, it should not be surprising that careful examination of the factor constructs embodied in the WSE (see Bolton, 1970, pp. 4-5) and in the MSS (see Gibson, Weiss, Dawis, & Lofquist, 1970, pp. 20-21) revealed that these factor resolutions were different from each other and from the WPP. Yet, it can be reasonably concluded--as explained below--that the WPP factor scales provide the most useful score profile for diagnostic purposes in work evaluation settings.

Overall, the WPP factor structure consists of one general work performance dimension and four fairly narrow behavioral clusters, focusing on interaction with co-workers, appropriate motivational attitudes, conformance to rules, and responsiveness to supervisors. Each of these factors has considerable historical precedent in the work assessment literature. Although individually meaningful and coherent when taken as a set, the factor scales do not align perfectly with the rational scales.

Lack of similarity between rational and empirical factors is common. Empirically based rating factors represent observers' perceptual structures or implicit personality theories (Passini & Norman, 1966) to a substantial degree, i.e., observers impose their common perceptual framework through their ratings. In contrast, the 11 rational scales represent categories of work behavior that make a priori organizational sense. Hence, it can be reasonably concluded that the two scoring schemes are complementary, each providing relevant diagnostic information, but at different levels of behavioral organization.

Because the factor scales are scored by summing raw item scores (and then dividing by the number of items), the factor scores are necessarily moderately intercorrelated. The median interfactor scale correlation is .56, with a range from .38 to .69, in the normative sample. (Comparable figures for the 11 rational scales are .62 and .31 to .84.) These data indicate that the factor scales share some common variance, typically 25% to 35%, but that they are substantially independent and therefore give work evaluators information about five clearly separable aspects of clients' work behavior.

Results of WPP research, therefore, indicate that the WPP consists of 11 rationally constructed work performance scales and five factor analytically derived scales. The 16 WPP scales were previously listed and described in Table 1. Descriptive statistics from the normative sample for the 16 WPP scales are provided in Table 2. It is apparent from the scale means and standard deviations that the score distributions are negatively skewed, indicating that more efficient diagnostic discrimination occurs at the lower (deficit) end of the scales, which is exactly what is desired. All WPPs were completed by trained rehabilitation professionals after clients had been observed for at least one week in a simulated work setting.

Reliability and Validity

Reliability. Three types of reliability evidence are available for the WPP, internal consistency, inter-rater

Table 2

WPP Descriptive Statistics Calculated for the Normative Sample (N = 243)[a]

Scale	Items	M	SD	α
S1. Acceptance of Work Role	10	3.16	0.55	.84
S2. Ability to Profit from Instruction or Correction	6	2.99	0.59	.91
S3. Work Persistence	4	2.89	0.67	.81
S4. Work Tolerance	5	2.95	0.66	.87
S5. Amount of Supervision Required	6	2.78	0.74	.92
S6. Extent Trainee Seeks Assistance from Supervisor	3	2.90	0.67	.83
S7. Degree of Comfort or Anxiety with Supervisor	4	2.97	0.53	.71
S8. Appropriateness of Personal Relations with Supervisor	3	3.06	0.63	.75
S9. Teamwork	6	2.87	0.58	.86
S10. Ability to Socialize with Co-workers	5	2.61	0.76	.91
S11. Social Communication Skills	6	2.80	0.58	.80
I. Task Orientation	21	2.87	0.62	.89
II. Social Skills	12	2.74	0.67	.83
III. Work Motivation	8	3.11	0.63	.91
IV. Work Conformance	9	2.98	0.64	.90
V. Personal Presentation	8	3.09	0.52	.84

[a]Means (M) and Standard Deviations (SD) are average item raw scores on the 4-point scale ranging from "an employability asset" (4) to "a problem area" (1).

agreement, and re-rating accuracy. Internal consistency reliabilities (coefficient alpha) for the 11 rational scales and five factor scales were calculated for the normative sample of 243 clients. Inter-rater and re-rating reliabilities were calculated for a sample of 79 clients from one of the three normative data collection sites.

Internal consistency reliability estimates for the 11 rational scales range from .71 to .92, with a median value of .84. For the five factor scales the reliabilities range from .83 to .91, with a median of .89 (see Table 2 for actual values). Recognizing that internal consistency coefficients establish lower limits for retest reliabilities, these estimates are well within the acceptable range. However, it is important to stress that internal consistency reliability bears no direct relationship to inter-rater agreement, unless certain (unwarranted) simplifying assumptions are made.

The research design for determining inter-rater and re-rater reliability entailed the completion of the WPP by two judges (independently) at the end of the second, fourth, and sixth weeks in the work evaluation program. The ratings were made by rehabilitation counselors, work evaluators, or behavioral analysts. Due to normal attrition from/and completion of/the work evaluation process, the sample was reduced to 61 clients after four weeks and to 25 clients after six weeks. Examination of mean ratings for the successively reduced samples revealed no evidence of increasing client difficulty, i.e., the ratings were not lower at the fourth and sixth weeks.

Table 3 presents the inter-rater and re-rating reliabilities. For ratings completed at the end of two weeks (n = 79), the inter-rater reliabilities for the 11 rational WPP scales ranged from .17 to .60, with a median of .48. Corresponding coefficients for the five factor scales were .44 to .62, with a median of .56. Reliabilities for the ratings after four (n = 61) and six (n = 25) weeks, respectively, for the 11 rational scales ranged from .35 to .76, with a median of .55, and from .23 to .86, with a median of .62. Parallel coefficients for the five factor scales were .40 to .76, with a median of .58, and .35 to .81 with a median of .66, respectively. These ranges for inter-rater reliabilities are consistent with those reported for the Workshop Scale of Employability (Gellman, Stern, & Soloff, 1963). As was found with the WSE, WPP inter-rater reliabilities would no doubt be increased if clients experiencing changes in supervision or work conditions were eliminated from the reliability sample.

Table 3

Reliability Estimates for the WPP[a]

	Interrater Reliability			Re-rater Reliability[b]		
Scale	Wk2	Wk4	Wk6	2-4	4-6	2-6
S1	.60	.69	.63	.90	.79	.93
S2	.39	.58	.71	.85	.75	.94
S3	.60	.76	.62	.89	.80	.92
S4	.55	.55	.66	.86	.83	.94
S5	.50	.73	.86	.84	.86	.97
S6	.17	.35	.42	.76	.64	.89
S7	.47	.56	.62	.84	.80	.95
S8	.50	.53	.68	.83	.77	.89
S9	.26	.43	.22	.81	.74	.90
S10	.48	.42	.47	.89	.67	.87
S11	.32	.35	.26	.79	.76	.89
I.	.57	.76	.81	.89	.85	.97
II.	.44	.40	.35	.86	.69	.89
III.	.53	.50	.65	.87	.80	.96
IV.	.62	.60	.67	.84	.74	.93
V.	.60	.58	.66	.88	.82	.93

[a]All coefficients are product-moment correlations

[b]Averages of two sets of raters

These data indicate that independent raters, even when highly qualified to observe and evaluate clients' work behavior, do not agree very much with each other. This finding is not unique to the WPP, but rather seems to reflect the idiosyncratic nature of the work evaluation process. Although vocational evaluators oftentimes do not agree with each other, the data on re-rating which is summarized next suggest that they are highly consistent in applying their own standards.

If a more reliable composite based on the ratings of independent observers is desired, the solution is to average the ratings of 2, 3, or even 4 evaluators. This is analogous to doubling, tripling, or quadrupling the length of a test with the consequent gain in reliability. Because the WPP may be completed so quickly and easily, this is an economical resolution of the problem of low inter-rater reliability. For work adjustment purposes, evaluators may also present any deficit reported by any rater as a valid intervention target.

As suggested already and documented in Table 3, the re-rating reliablity estimates are generally very high, suggesting that evaluators use the WPP in a consistent manner from day to day and week to week. The re-rating reliabilities from week 2 to week 4 ($\underline{n}$ = 61) for the 11 rational scales ranged from .76 to .90, with a median value of .84. Corresponding reliabilities for the factor scales were .84 to .89, with a median of .87. Reliabilities for the re-ratings from week 4 to week 6 ($\underline{n}$ = 25) and from week 2 to week 6 ($\underline{n}$ = 25) respectively, for the rational scales ranged from .64 to .86, with a median of .77, and from .87 to .97, with a median of .92. Parallel coefficients for the factor scales were .69 to .85, with a median of .80, and .89 to .97 with a median of .93, respectively. The inter-rater/intra-rater reliability differential found with the WPP was also reported for the WSE (Gellman, Stern, & Soloff, 1963).

In addition to the conclusions stated previously about low inter-rater agreement with the WPP and high intra-rater reliability on re-rating, it can be observed that rational scales S6, S9, and S11, and factor scale F2 are less reliable than other scales. The results suggest that clients' interpersonal behaviors, especially when interacting with co-workers, are subject to individual raters' interpretation and/or temporal situational fluctuation. In summary, it can be concluded that the WPP possesses adequate reliability for diagnostic applications in work evaluation programs. This conclusion presumes that two or more independent ratings are averaged into a composite profile for each client evaluated.

Validity. Two types of validity evidence are available for the WPP (Bolton, 1985a). Concurrent correlations with standardized measures of vocational aptitudes, occupational interests, and normal personality traits are presented. Predictive validity against two criteria, type of service outcome and ratings by vocational instructors, is demonstrated.

As described earlier, the validity sample consisted of 181 clients at a comprehensive rehabilitation center. Due to limited opportunity to observe clients in group interaction, the WPP was reduced to 38 items that are scored on the first eight rational scales for the validity study. Scale means and standard deviations for S1 through S8 were similar to the normative sample with alpha reliabilities in the range .85 to .95; however, the average inter-scale correlation was .78, suggesting a large general factor underlying the WPP ratings for the validity sample.

Concurrent correlations between eight WPP scales and nine aptitudes measured by the General Aptitude Test Battery (GATB), 12 interest areas measured by the United State Employment Service Interest Inventory (USES-II), and 16 personality traits assessed by the Sixteen Personality Factor Questionnaire (16 PF) are listed in Table 4. It can be observed that the WPP has substantial relationships with cognitive aptitudes (G, V, N), lower correlations with perceptual aptitudes (S, P, Q), and minimal relationships with psychomotor aptitudes (K, F, M). Although the high WPP inter-scale correlations preclude much differentiation, it appears that S2-Ability to Profit from Instruction or Correction and S5-Amount of Supervision Required most strongly reflect vocational aptitude. In general, the WPP-aptitude correlations were substantially higher for females, especially for aptitudes G, V, N, and Q.

Surprisingly, several occupational interest scales are related to observer-rated work behavior. The positive WPP relationships with Scientific and Mechanical interests are determined mainly by males in the sample. In contrast, the positive WPP relationships with Business and Leadership interests and the negative relationship with Service interests reflect mostly the influence of the female subsample. In fact, the validity coefficients for the females for these scales and Outdoor interests (negative) are in the .30s and .40s. Negative relationships between rated work behavior and interest in Service and Outdoor occupations suggest that clients attracted to low-level jobs are less well prepared to meet essential requirements of the work role.

Table 4

WPP Correlations with Aptitudes, Interests, and Personality[a]

	WPP Scales							
GATB	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**
G-General	.27***	.41***	.35***	.32***	.41***	.29***	.25**	.17*
V-Verbal	.25**	.33***	.28***	.27***	.33***	.27***	.22**	.17*
N-Numerical	.29***	.45***	.37***	.37***	.46***	.33***	.27***	.20**
S-Spatial	.11	.30***	.23**	.18*	.31***	.15	.12	.08
P-Perception	.11	.22**	.17*	.24**	.29***	.13	.10	.06
Q-Clerical	.13	.27***	.23**	.26***	.32***	.23**	.11	.13
K-Motor	.11	.20*	.18*	.23**	.23**	.18*	.15	.05
F-Finger	.19*	.29***	.23**	.23**	.30***	.23**	.15	.08
M-Manual	.14	.14	.12	.16	.15	.15	.05	.02
USES-II								
1-Artistic	.05	.13	.02	.01	.12	.05	.06	.04
2-Scientific	.10	.22**	.16*	.15	.19*	.14	.21**	.14
3-Outdoor	-.03	.03	.00	.01	.03	-.02	.05	.09
4-Protective	-.05	-.04	-.03	.00	-.02	.02	.05	.10
5-Mechanical	.17*	.21**	.21**	.23**	.20*	.15	.23**	.11
6-Industrial	.00	-.03	.00	-.03	-.02	.02	.07	.05
7-Business	.19*	.17*	.14	.17*	.20*	.18*	.18*	.17*
8-Selling	-.01	-.04	-.02	-.05	-.03	.03	.06	.05
9-Service	-.14	-.21**	-.19*	-.19*	-.17*	-.16*	-.11	-.06
10-Social	.07	.16*	.14	.14	.17*	.17*	.16*	.12
11-Leadership	.15	.23**	.22**	.19*	.23**	.15	.18*	.15
12-Physical	-.01	.07	.03	.06	.05	.07	.10	.04

16 PF	S1	S2	S3	S4	S5	S6	S7	S8
A Warmth	-.12	-.11	-.17**	-.14*	-.11	-.12*	-.11	-.15*
B Intelligence	.16*	.29***	.26***	.25***	.30***	.24***	.15*	.14*
C Stability	.07	.07	.05	.06	.08	.10	.12*	.06
E Dominance	-.16**	-.09	-.08	-.12	-.06	-.05	-.08	-.12*
F Impulsivity	-.06	-.06	-.12*	-.09	-.05	-.06	-.02	.01
G Conformity	.14*	.12*	.15*	.13*	.14*	.13*	.10	.10
H Boldness	-.02	-.05	-.08	-.10	-.01	-.05	-.04	-.07
I Sensivity	.02	.03	-.06	-.04	-.03	-.04	-.03	-.01
L Suspicious	-.10	-.07	-.05	-.08	-.07	-.02	-.07	-.06
M Imagination	-.02	.10	.03	.03	.04	-.01	-.02	-.01
N Shrewdness	.07	.08	.11	.11	.12*	.08	.10	.07
O Insecurity	.01	-.04	-.06	-.05	-.06	-.02	-.07	-.03
Q_1 Radicalism	-.05	.03	-.04	-.01	.00	-.01	-.03	-.04
Q_2 Sufficiency	.05	.10	.11	.05	.08	.06	.00	.02
Q3 Discipline	.09	.04	.02	.02	.09	.09	.05	.00
Q_4 Tension	-.11	-.15*	-.13*	-.14*	-.19**	-.14*	-.17**	-.10

[a]Sample sizes are: General Aptitude Test Battery (GATB; n = 150), United States Employment Service Interest Inventory (USES-II; n = 155), Sixteen Personality Factor Questionnaire (16 PF; n = 253).

*p < .05; **p < .01; ***p < .001 (2-tailed).

Finally, with a few exceptions, WPP scales are essentially independent of self-reported personality characteristics. The most notable exception is factor B-Intelligence; the consistently positive correlations with rated work behavior are supportive of the relationships obtained for GATB scales G, V, and N. There is evidence that clients who describe themselves as somewhat reserved (A-), more conforming (G+), and less tense (Q_4-) are rated slightly higher on most WPP scales. However, the relationships are of very small magnitude and thus of theoretical interest only.

The first analysis of predictive validity of the WPP involved comparisons of five service outcome groups: 1) clients who completed vocational training programs (n = 61); 2) clients who completed evaluation or medical programs, but did not go on immediately to vocational training (n = 22); 3) clients who dropped out of the center for various reasons (n = 60); 4) clients who were judged to be non-feasible (n = 30); and 5) clients who were discharged for disciplinary infractions (n = 8). While the distinctions among the five groups are unambiguous, it is much less clear how accurately group membership reflects the criterion of concern, i.e., mature and appropriate work behavior.

Nevertheless, careful examination of the mean WPP scores for the five outcome groups suggests that substantial relationships exist, and that the direction of the relationships generally supports the validity of the WPP as a measure of clients' work potential (see Table 5). Specifically, clients who subsequently completed their vocational training programs were rated higher on all eight WPP scales during their initial work evaluation sequence than were clients who completed only evaluation or medical programs, clients who left the center, and clients who were judged non-feasible for futher vocational services. (Although the small number of clients who were given disciplinary discharges received the highest average ratings on seven WPP scales, it is difficult to attribute any meaning to this finding.) These generally favorable results are further strengthened by the similarity of the five outcome groups on sex, age, education, intelligence, and major disability.

The second analysis of the predictive validity of the WPP was based on data for the 61 clients who completed vocational training programs. Clients completed training in 22 different vocational areas, but more than half were in just four training areas: sales clerk, laundry, file clerk/receptionist, and custodial. Examples of other vocational training areas represented are small engine repair,

Table 5

WPP Scores for Five Service Outcome Groups[a]

Group	N		WPP Scales S1	S2	S3	S4	S5	S6	S7	S8
1) Completed Vocational Training	61	M	3.33	2.87	3.01	3.13	2.87	3.12	3.20	3.34
		SD	0.62	0.70	0.73	0.64	0.80	0.82	0.68	0.64
2) Completed Evaluation or Medical	22	M	3.09	2.58	2.69	2.77	2.47	2.85	3.05	3.00
		SD	0.69	0.94	0.91	0.88	0.98	0.89	0.72	0.84
3) Dropout	60	M	3.21	2.77	2.88	2.92	2.71	2.99	2.91	3.18
		SD	0.61	0.75	0.76	0.67	0.86	0.83	0.76	0.72
4) Non-Feasible	30	M	3.08	2.67	2.78	2.86	2.54	2.83	2.73	2.90
		SD	0.66	0.80	0.88	0.77	0.84	0.98	0.74	0.88
5) Disciplinary Discharge	8	M	3.56	3.17	3.16	3.22	2.98	2.88	3.23	3.44
		SD	0.32	0.84	0.72	0.67	0.12	0.85	0.90	0.62

[a]Comparisons between clients who completed vocational training (group 1) and clients in groups 2, 3, and 4 combined yielded significant t-statistics for WPP scales S4 ($p < .02$), S7 ($p < .01$), and S8 ($p < .03$).

upholstery, food service, and data processing. Reflecting the heterogeneity of vocational training areas, program length ranged from 8 weeks to 52 weeks, with the typical length between 16 and 32 weeks. At the point of program completion, vocational instructors rated each graduate on (a) 12 general vocational competencies, e.g., works with others, follows instructions, and accepts responsibility, and (b) from 20 to 40 job competencies specific to each of the training areas.

Because all specific job competency items were judged on a standard 4-point scale of skill acquisition, an average specific job competency score could be calculated for each client in the sample. The 12 general vocational competencies were rated on a 2-point scale (acceptable or needs improvement); an average score was also calculated for each subject. Correlations between eight WPP scales and average general and specific competencies are listed in Table 6.

Four of the eight WPP scales were statistically significant predictors of general vocational competence. Considering the heterogeneity of the client sample and the variety of vocational training areas clients graduated from, these validity results are impressive. The absence of predictive relationships between WPP scales and specific job competency is also consistent with the design of the WPP; the instrument was not intended to assess specific job skill acquisition, but rather to measure general work personality attributes that are essential to successful adjustment in all vocational areas. It is important to note that higher general and specific vocational competency ratings were achieved by clients who had previously described themselves as more secure (O-), $r = .39$ ($p < .005$) and $r = -.28$ ($p < .05$), respectively, and as less tense (Q_4-), $r = -.44$ ($p < .001$) and $r = -.29$ ($p < .05$).

Summary

1. The WPP is a comprehensive, behaviorally-oriented work assessment instrument that is scored on 11 rational scales and five factor scales. The five factor scales are: Task Orientation, Social Skills, Work Motivation, Work Conformance, and Personal Presentation. The rational and factor scales provide diagnostic scores at two conceptual levels in the hierarchy of observable work behaviors.

2. Internal consistency reliabilities for the 16 WPP scales are mostly in the .80s and low .90s; inter-rater reliabilities are typically in the .40s, .50s, and .60s; re-rater reliabilities are mainly in the .70s,

Table 6

WPP Correlations with General and Specific Vocational Competencies[a]

Vocational Competencies[b]	WPP Scales							
	S1	S2	S3	S4	S5	S6	S7	S8
General	.33**	.17	.24	.29*	.19	.20	.32**	.34**
Specific	-.04	-.08	-.09	-.06	-.03	-.07	-.03	.01

[a]For clients who completed vocational training programs (n = 61)

[b]General vocational competence is an average of 12 rated items; Specific job competence is an average of between 20 and 40 rated items developed for each training program.

*p < .05; **p < .02 (2-tailed)

.80s, and .90s. The lower inter-rater agreement suggests that independent ratings from two or more observers should be averaged into composite scores for diagnostic purposes.

3. Concurrent correlations with standard aptitude, interest, and personality measures revealed substantial relationships between WPP scales and cognitive ability, modest relationships with vocational interests, and virtual independence of the normal personality sphere. The WPP was predictive of successful service outcomes using two criteria of vocational adjustment, i.e., completion of vocational training programs and rated general competence during vocational training.

4. In addition to average raw scores which provide criterion-referenced interpretation on the 4-point anchored format, WPP scale scores can be translated into percentile equivalents using the normative table in Appendix 2. The entire WPP scoring and reporting procedure could be programmed for microcomputer application by practitioners with the requisite facilities and resources.

References

Bolton, B. (1970). The Revised Scale of Employability: An application of Taylor's rating scale construction technique. Experimental Publication System, Issue No. 7, Ms. No. 261-346.

Bolton, B. (1985a). Measurement in rehabilitation. In E. Pan, S. Newman, T. Backer, & C. Vash (Eds.), Annual review of rehabilitation (vol. 4), (pp. 115-144). New York: Springer.

Bolton, B. (1985b). Minnesota Satisfactoriness Scales. In D. J. Keyser & R. C. Sweetland (Eds.), Test critiques: Volume 4 (pp. 434-439). Kansas City, MO: Test Corporation of America.

Crites, J. (1976). A comprehensive model of career development in early adulthood. Journal of Vocational Behavior, 9, 105-118.

Dunn, D. J. (1973). Situational assessment: Models for the future. University of Wisconsin-Stout, Department of Rehabilitation & Manpower Services, Research and Training Center, Menomonie, WI.

Gellman, W. (1953). Components of vocational adjustment. Personnel & Guidance Journal, 31, 536-539.

Gibson, D. L., Weiss, D. J., Dawis, R. V., & Lofquist, L. H. (1970). Manual for the Minnesota Satisfactoriness Scales (Minnesota Studies in Vocational Rehabilitation: 27). Minneapolis: University of Minnesota, Vocational Psychology Research.

Greenspan, S., & Shoultz, B. (1981). Why mentally retarded adults lose their jobs: Social competence as a factor in work adjustment. Applied Research in Mental Retardation, 2, 23-38.

Hoffman, P. R. (1972). Work evaluation: An overview. In J. G. Cull & R. E. Hardy (Eds.), Vocational rehabilitation: Profession and process. Springfield, IL: Charles C Thomas, 188-211.

Kolstoe, O. (1961). An examination of some characteristics disciminating between employed and not-employed mentally retarded adults. American Journal of Mental Deficiency, 66, 472-482.

Lewinsohn, P., & Graf, M. (1973). A follow-up study of per-

sons referred for vocational rehabilitation who have suffered from brain injury. Journal of Consulting Psychology, 1, 57-62.

Marr, J., & Roessler, R. (1986). Behavior management in work settings. Richard J. Baker Memorial Monograph Series. Vocational Evaluation Work Adjustment Association, 2.

Oetting, G., & Miller, C. (1977). Work and the disadvantaged: The work adjustment hierarchy. Personnel and Guidance Journal, 56, 29-35.

Passini, F., & Norma, W. (1966). A universal conception of personality structure. Journal of Personality and Social Psychology, 4, 44-49.

Roessler, R., & Bolton, B. (1983). Assessment and enhancement of functional vocational capabilities: A five year research strategy. Richard J. Baker Memorial Monograph Series. Vocational Evaluation and Work Adjustment Association, 1.

Selz, N., Jones, J., & Ashley, W. (1980). Functional capacities for adapting to the world of work. National Center for Research in Vocational Education, Ohio State University, Columbus, OH.

Appendix 1

Instructions for the WPP Floppy Disk[a]

1. The Work Personality Profile (WPP) is a 58-item work behavior rating instrument for use in evaluation and employment settings.

2. The 58 work behavior items are completed by an evaluator or supervisor using a standard 4-point rating format.

3. The WPP Report calculates scale scores and percentile equivalents for 11 primary and 5 secondary work behavior scales and lists critical employability deficits.

4. The 58 WPP items appear on the screen in blocks of 10 items with the standard rating format.

5. To activate the Work Personality Profile:

   a. Place the DOS diskette for your machine in drive A and turn on the power switches for the display, base unit and printer.

   b. Follow the standard procedures described in your operations manual to reach the A> prompt.

   c. Place the WPP diskette in drive B.

   d. Type the following command:

      Copy Command.Com B:

   e. Press the ENTER key.

   f. Remove the DOS diskette and place the WPP diskette in drive A.

   g. Type PERCENT and press the ENTER key to reach the initial input screen, and follow the instructions on the screen to enter the 58 scores and generate a printed WPP Report.

---

[a]The WPP was programmed for microcomputer by Paul M. Kuroda of the Arkansas Research and Training Center in Vocational Rehabilitation.

Appendix 2

Scoring Key for WPP Scales[a]

11 Rationally Derived Scales	# of Items	Item Numbers
S1 Acceptance of work role	10	1,12,13,24,25,36,37,46, 53,58
S2 Ability to profit from instruction or correction	6	2,14,26,38,47,54
S3 Work persistence	4	3,15,27,39
S4 Work tolerance	5	4,16,28,40,48
S5 Amount of supervision required	6	5,17,29,41,49,55
S6 Extent trainee seeks assistance from supervisor	3	6,18,30
S7 Degree of comfort or anxiety with supervisor	4	7,19,31,42
S8 Appropriateness of personal relations with supervisor	3	8,20,32
S9 Teamwork	6	9,21,33,43,50,56
S10 Ability to socialize with co-workers	5	10,22,34,44,51
S11 Social communication skills	6	11,23,35,45,52,57
5 Factor Analytic Scales		
F1 Task orientation	21	2,3,5,14,17,18,26,27,28, 29,30,38,39,40,41,42,47, 48,49,54,55
F2 Social skills	12	9,10,22,23,34,35,43,44, 46,50,51,52
F3 Work motivation	8	4,12,13,15,16,21,33,56
F4 Work conformance	9	11,19,20,24,36,45,53,57, 58
F5 Personal presentation	8	1,6,7,8,25,31,32,37

Appendix 3

Percentile Conversions for WPP Scales[a,b]

Scale	1	10	20	30	40	50	60	70	80	90	99
	Percentile Scores										
S1	1.00	2.35	2.76	2.92	3.08	3.19	3.38	3.50	3.60	3.79	4.00
S2	1.00	2.17	2.57	2.80	2.87	2.94	3.00	3.20	3.38	3.82	4.00
S3	1.00	1.82	2.18	2.48	2.70	2.83	2.95	3.15	3.40	3.63	4.00
S4	1.00	2.00	2.42	2.76	2.81	2.92	3.04	3.17	3.40	3.70	4.00
S5	1.00	1.65	2.02	2.39	2.64	2.83	2.93	3.15	3.37	3.65	4.00
S6	1.00	1.80	2.25	2.60	2.70	2.80	2.90	2.99	3.28	3.65	4.00
S7	1.00	2.18	2.40	2.70	2.79	2.88	2.97	3.11	3.35	3.59	4.00
S8	1.00	2.00	2.53	2.68	2.78	2.88	2.98	3.29	3.59	3.78	4.00
S9	1.00	2.00	2.40	2.67	2.84	2.90	2.95	3.00	3.21	3.55	4.00
S10	1.00	1.31	1.86	2.12	2.47	2.78	2.92	3.07	3.21	3.43	4.00
S11	1.00	1.92	2.23	2.48	2.66	2.82	2.90	2.99	3.22	3.50	4.00
I	1.00	1.95	2.41	2.65	.276	2.94	3.04	3.19	3.35	3.62	4.00
II	1.00	1.71	2.22	2.41	2.66	2.90	2.98	3.11	3.26	3.47	4.00
III	1.00	2.10	2.68	2.87	2.97	3.14	3.27	3.46	3.62	3.87	4.00
IV	1.00	1.95	2.55	2.77	2.93	3.12	3.22	3.33	3.46	3.66	4.00
V	1.00	2.39	2.63	2.87	2.93	3.04	3.17	3.32	3.49	3.72	4.00
	1	10	20	30	40	50	60	70	80	90	99
	Percentile Scores										

[a]For the normative sample of 243 clients in work evaluation programs (see text for description).
[b]To determine the decile (1,10,20...) score, locate the closest raw scale score (average of rated items keyed on the scale) in the body of the table and look up or down the column to the decile equivalent. Percentile scores may be calculated by interpolating the raw score intervals using standard procedures.

Appendix 4

Scoring Instructions

Scale Scores

To calculate the 16 scale scores for the Profile Report, use the following procedures:

1. List the rating given for each item in the scale.
2. Add the rating scores together to generate a total scale score.
3. Divide the total scale score by the number of items rated; delete any items left blank or marked with an "X".
4. The resulting score, ranging from 1.00 to 4.00, is the average for that scale; enter that average on the Profile Report.

Study the following example which uses the data reported in the sample WPP in Appendix 3.

WPP Scales, Items, and Sample Ratings	Total Score	# of Items	Average Scale Score
S1 Acceptance of work role	28	9	3.11
Items 1,12,13,24,25,36,37,46,53,58			
Sample Ratings 4, 3, 2, 3, 4, 3, 4, 4, X, 1			
S2 Ability to profit from instruction or correction	17	6	2.83
Items 2,14,26,38,47,54			
Sample Ratings 4, 3, 2, 2, 3, 4			
S3 Work Persistence	13	5	2.60
Items 3,15,27,39			
Sample Ratings 4, 2, 3, 1			
S4 Work tolerance	13	5	2.60
Items 4,16,28,40,48			
Sample Ratings 2, 3, 3, 3, 2			
S5 Amount of supervision required	16	6	2.67
Items 5,17,29,41,49,55			
Sample Ratings 3, 3, 3, 2, 3, 2			

WPP Scales, Items, and Sample Ratings	Total Score	# of Items	Average Scale Score
S6 Extent trainee seeks assistance from supervisor	4	3	1.33
Items 6,18,30			
Sample 2, 1, 1			
Ratings			
S7 Degree of comfort or anxiety with supervisor	17	4	2.75
Items 7,19,31,42			
Sample 4, 1, 2, 4			
Ratings			
S8 Appropriateness of personal relations with supervisor	10	3	3.33
Items 8,20,32			
Sample 4, 3, 3			
Ratings			
S9 Teamwork	11	5	2.20
Items 9,21,33,43,50,56			
Sample 3, 2, 2, 2, 2, X			
Ratings			
S10 Ability to socialize with co-workers	9	4	2.25
Items 10,22,34,44,51			
Sample 4, 1, 2, X, 2			
Ratings			
S11 Social communication skills	11	6	1.83
Items 11,23,35,45,52,57			
Sample 1, 2, 2, 3, 2, 1			
Ratings			
F1 Task orientation	55	21	2.62
Items 2,3,5,14,17,18,26,27,28,29,			
Sample 4,4,3, 3, 3, 1, 2, 3, 3, 3,			
Ratings			
Items 30,38,39,40,41,42,47,48,49,54,55			
Sample 1, 2, 1, 3, 2, 4, 3, 2, 3, 3, 2			
Ratings			
F2 Social skills	26	11	2.36
Items 9,10,22,23,34,35,43,44,			
Sample 3, 4, 1, 2, 2, 2, 2, X,			
Ratings			
Items 46,50,51,52			
Sample 4, 2, 2, 2			
Ratings			

WPP Scales, Items, and Sample Ratings	Total Score	# of Items	Average Scale Score
F3 Work motivation	16	7	2.29
Items 4,12,13,15,16,21,33,56			
Sample Ratings 2, 3, 2, 2, 3, 2, 2, X			
F4 Work conformance	16	8	2.00
Items 11,19,20,24,36,45,53,57,58			
Sample Ratings 1, 1, 3, 3, 3, 3, X, 1, 1			
F5 Personal presentation	27	8	3.38
Items 1,6,7,8,25,31,32,37			
Sample Ratings 4,2,4,4, 4, 2, 3, 4			

Percentile Equivalents

Use Appendix 2 to convert average scale scores to percentile ranks. An approximation of the percentile equivalent should suffice in most cases. For example, the evaluee's score on scale S1 is 3.11, a score falling between the 40th %ile and 50th %ile. The range of corresponding raw scores is 3.08 for the 40th %ile and 3.19 for the 50th %ile. Since 3.11 is approximately one-third of the way between these two scores, its percentile equivalent falls about one-third of the way between the 40th %ile and 50th %ile, or the 43rd %ile.

The evaluee's score on S2 is 2.83, about halfway between the 30th %ile and 40th %ile which correspond to raw scores of 2.80 and 2.87, respectively. Therefore, 2.83 falls at approximately the 34th %ile of the normative sample.

Standard interpolation procedures can be used to calculate exact percentile equivalents. A formula for this conversion is available in any introductory statistics textbook.

Work Personality Profile[1]

Please describe the client's observed work performance by using the five options listed below to complete the 58 behavioral items.

(4) A definite strength, an employability asset
(3) Adequate performance, not a particular strength
(2) Performance inconsistent, potentially an employability problem
(1) A problem area, will definitely limit the person's chance for employment
(X) No opportunity to observe the behavior

Client	Last	First	Middle

Rater	Date

●	(3)	(2)	(1)	(X)	1. Sufficiently alert and aware
●	(3)	(2)	(1)	(X)	2. Learns new assignments quickly
●	(3)	(2)	(1)	(X)	3. Works steadily during entire work period.
(4)	(3)	●	(1)	(X)	4. Accepts changes in work assignments
(4)	●	(2)	(1)	(X)	5. Needs virtually no direct supervision
(4)	(3)	●	(1)	(X)	6. Requests help in an appropriate fashion
●	(3)	(2)	(1)	(X)	7. Approaches supervisory personnel with confidence
●	(3)	(2)	(1)	(X)	8. Is appropriately friendly with supervisor
(4)	●	(2)	(1)	(X)	9. Shows pride in group effort
●	(3)	(2)	(1)	(X)	10. Shows interest in what others are doing
(4)	(3)	(2)	●	(X)	11. Expresses likes and dislikes appropriately
(4)	●	(2)	(1)	(X)	12. Initiates work-related activities on time
(4)	(3)	●	(1)	(X)	13. Accepts work assignments and instructions from supervisor without arguing
(4)	●	(2)	(1)	(X)	14. Improves performance when shown how
(4)	(3)	●	(1)	(X)	15. Works at routine jobs without resistance
(4)	●	(2)	(1)	(X)	16. Expresses willingness to try new assignments
(4)	●	(2)	(1)	(X)	17. Carries out assigned tasks without prompting
(4)	(3)	(2)	●	(X)	18. Asks for further instructions if task is not clear
(4)	(3)	(2)	●	(X)	19. Accepts correction without becoming upset
(4)	●	(2)	(1)	(X)	20. Discusses personal problems with supervisor only if work-related.
(4)	(3)	●	(1)	(X)	21. Accepts assignment to group tasks
(4)	(3)	(2)	●	(X)	22. Seeks out co-workers to be friends
(4)	(3)	●	(1)	(X)	23. Responds when others initiate conversation

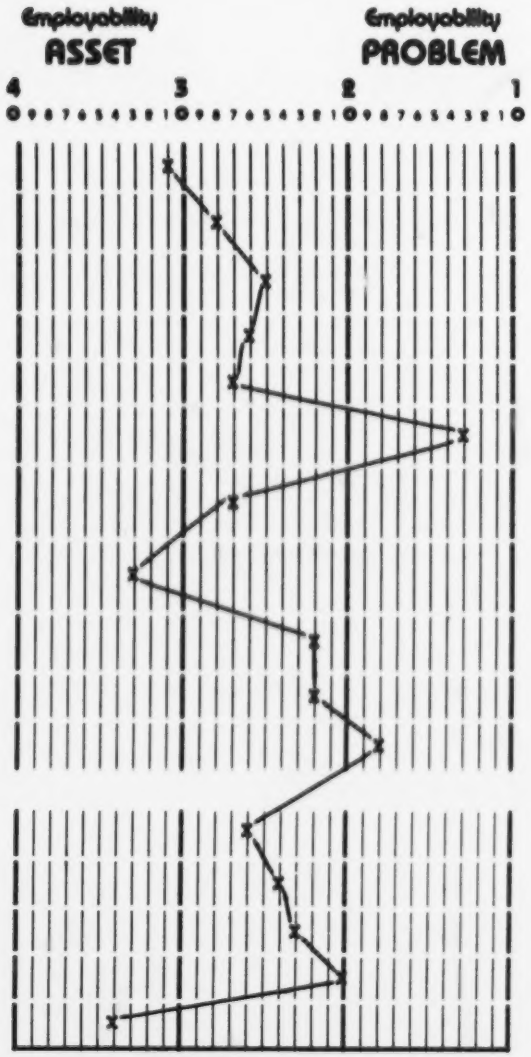
[1] Arkansas Research and Training Center in Vocational Rehabilitation, University of Arkansas, Fayetteville

4	**3**	2	1	X	**24.** Conforms to rules and regulations
4	3	2	1	X	**25.** Maintains satisfactory personal hygiene habits
4	3	**2**	1	X	**26.** Changes work methods when instructed to do so
4	**3**	2	1	X	**27.** Pays attention to details while working
4	**3**	2	1	X	**28.** Maintains productivity despite change in routine
4	**3**	2	1	X	**29.** Recognizes own mistakes
4	3	2	**1**	X	**30.** Asks for help when having difficulty with tasks
4	3	**2**	1	X	**31.** Comfortable with supervisor
4	**3**	2	1	X	**32.** Gets along with staff
4	3	**2**	1	X	**33.** Works comfortably in group tasks
4	3	**2**	1	X	**34.** Appears comfortable in social interactions
4	3	**2**	1	X	**35.** Initiates conversations with others
4	**3**	2	1	X	**36.** Displays good judgment in use of obscenities and vulgarities
4	3	2	1	X	**37.** Arrives appropriately dressed for work
4	3	**2**	1	X	**38.** Maintains improved work procedures after correction
4	3	2	**1**	X	**39.** Maintains work pace even if distractions occur
4	**3**	2	1	X	**40.** Performs satisfactorily in tasks that require variety and change
4	3	**2**	1	X	**41.** Initiates action to correct own mistakes
4	3	2	1	X	**42.** Performance remains stable in supervisor's presence
4	3	**2**	1	X	**43.** Supportive of others in group tasks
4	3	2	1	**X**	**44.** Joins social groups when they are available
4	**3**	2	1	X	**45.** Listens while other person speaks, avoids interrupting
4	3	2	1	X	**46.** Expresses pleasure in accomplishment
4	**3**	2	1	X	**47.** Listens to instructions or corrections attentively
4	3	**2**	1	X	**48.** Moves from job to job easily
4	**3**	2	1	X	**49.** Needs less than average amount of supervision
4	3	**2**	1	X	**50.** Offers assistance to co-workers when appropriate
4	3	**2**	1	X	**51.** Is sought out frequently by co-workers
4	3	**2**	1	X	**52.** Expresses positive feelings, e.g., praise, liking for others
4	3	2	1	**X**	**53.** Displays good judgment in playing practical jokes or "horsing around"
4	**3**	2	1	X	**54.** Transfers previously learned skills to new task
4	3	**2**	1	X	**55.** Handles problems with only occasional help
4	3	2	1	**X**	**56.** Assumes assigned role in group tasks
4	3	2	**1**	X	**57.** Expresses negative feelings appropriately, e.g., anger, fear, sadness
4	3	2	**1**	X	**58.** Controls temper

Work Personality Profile
REPORT[1]

Name	Sex	Age	Race

Education	Disability

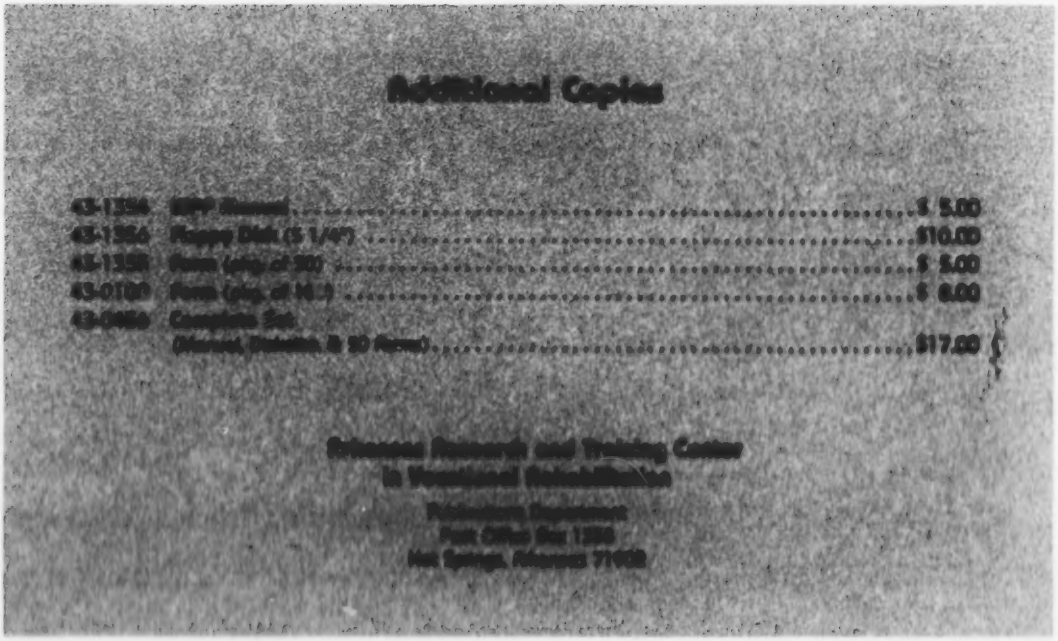


Percentile Equivalent %		
43	S1	Acceptance of work role
34	S2	Ability to profit from instruction or correction
31	S3	Work persistence
25	S4	Work tolerance
41	S5	Amount of supervision required
4	S6	Extent trainee seeks assistance from supervisor
35	S7	Degree of comfort or anxiety with supervisor
71	S8	Appropriateness of personal relations with supervisor
15	S9	Teamwork
34	S10	Ability to socialize with co-workers
10	S11	Social communication skills
29	F1	Task orientation
27	F2	Social skills
13	F3	Work motivation
11	F4	Work conformance
73	F5	Personal presentation

Critical employability deficits, i.e., behaviors rated "1" or "2"

"1" Problem areas	"2" Problem areas
(11) expresses likes & dislikes inappropriately,	(4) Resists changes in work assignments,
(18) Fails to ask for necessary instructions, 19,	(6) Requests help inappropriately, 13, 15, 21, 23, 26,
22, 30, 39, 56, 58	31, 33, 34, 35, 38, 41, 43, 48, 50, 51, 52, 55

[1] Arkansas Research and Training Center in Vocational Rehabilitation, University of Arkansas, Fayetteville


Additional Copies
$ 5.00
$10.00
$ 5.00
$ 8.00
$17.00

1334/87/300